

# We solve your problems!



# FRANK Since 1965.

Established in 1965, FRANK is a successful owner-managed German company and one of the leading system suppliers in the European market for plastic pipes.

We specialise in the development, production and marketing of pipe systems, valves, fittings, measuring and control technology, semi-finished products, concrete protective liners, geosynthetics and custom-engineered solutions in thermoplastics.

To our clients we offer complete system solutions and a flexible all-round service in the areas of gas and water supply, geothermal energy, geosynthetics, wastewater treatment.



# We make all the difference Your experts of the FRANK Group.

Our global team of more than 400 dedicated employees works for 11 specialised production and distribution companies, assisting our customers with expert know-how and efficient solutions.

### AGRU-FRANK GmbH

Production of pipes for gas, water and wastewater and a range of industrial applications; manufacture of geothermal probes and pipe bends.

## AGRU-FRANK Polska SP. z o.o.

Marketing and distribution of FRANK products in Poland.

# DRS-Rohrwerke Sachsen GmbH

Production and marketing of corrugated cable protection, ventilation and sewer pipes as well as spiral pipes.

## FRANK GmbH

Strategic management of FRANK Group; national and international marketing of complete product range; technical application support and coordination of product development.

# FRANK-

KUNSTSTOFFTECHNIK GmbH Production of custom-engineered components, spiral pipes up to ND 3500 and technical solutions for landfills.

## FRANK PKS N.Z. Ltd.

Marketing and distribution of spiral pipes and custom-engineered components in New Zealand.

### G quadrat

# Geokunststoffgesellschaft mbH

Specialist in geosynthetics for landfills and tunnel sealing including installation.

# PF-Schweißtechnologie GmbH

Development and production of plastic welding machines, tools and accessories.

# PPS-FRANK N.Z. Ltd.

Production of spiral pipes and custom-engineered parts up to ND 2500.

## TWS Thermoplastic Winding Systems Sp. z o.o.

Production of industrial spiral pipes up to ND 4000 in PE, PP and special materials.

## **XORELLA-FRANK AG**

Marketing of FRANK products in Switzerland; production and assembly of customised valves and fittings.













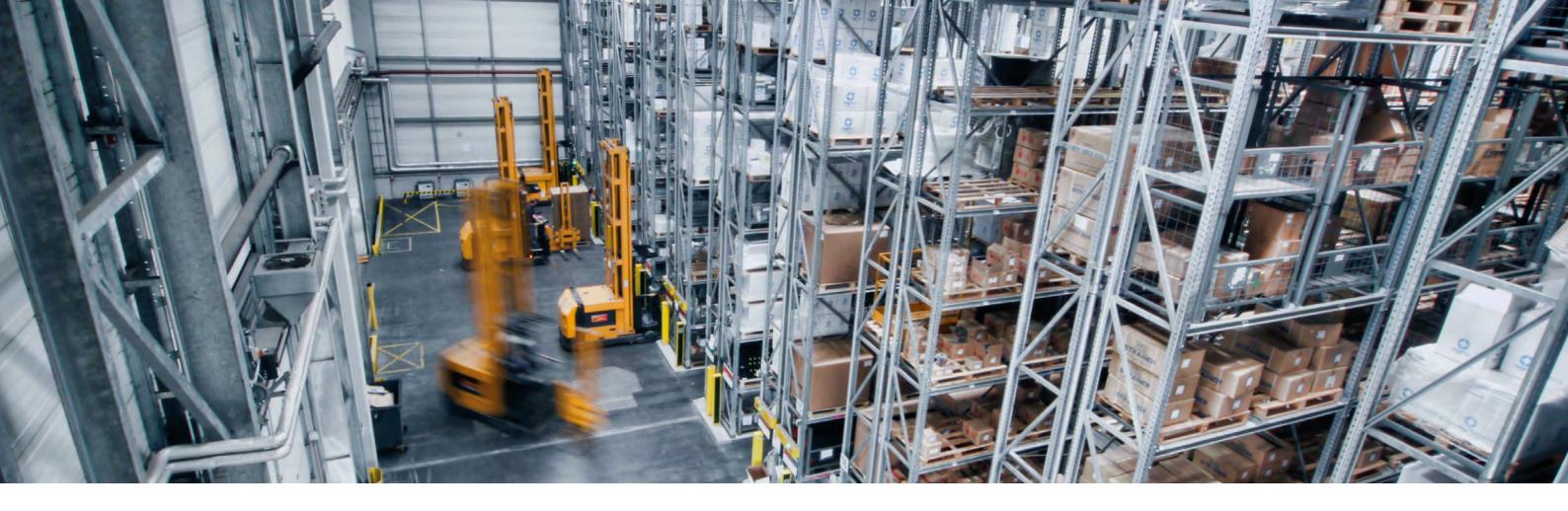




# We just do it Our mission.

**)** It is our mission to develop and produce outstanding products made from top-quality plastics and to support our customers with a comprehensive range of service for both standard and specialised applications. Thanks to our experience, we provide optimised solutions."

- We are an innovative and successful German company managed by its owners.
- We always aim for the best solution as we have the know-how and matching, top-quality products.
- We offer a fast, customer-focused all-round service.
- We act with the future in mind as we want to grow in a sustainable manner so as to protect jobs.
- Our employees are highly motived and competent. Their dedication and skills are the foundation of our success.
- We keep our word. We value transparent and trustful relationships with our customers, partners and employees.
- We protect resources and the environment.
- We are involved in local social projects.



# We have the means and ways

# Our service promise.

As a one-stop supplier with a large product portfolio, we implement your wishes with efficiency and flexibility – from your first personal meeting with our experts to discuss your needs to the finished custom-engineered solution.

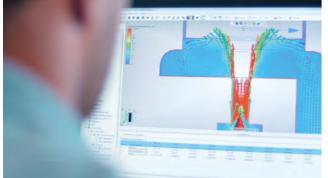
Our technical sales team assists you at all stages of your project – also on site.

At our large centralised warehouse near Frankfurt/Main airport, with excellent road and rail access, our experienced sales and logistics staff make sure that all orders are dispatched quickly and reach our customers on time.

# We can do it-from experience Innovation. Quality. Know-how.

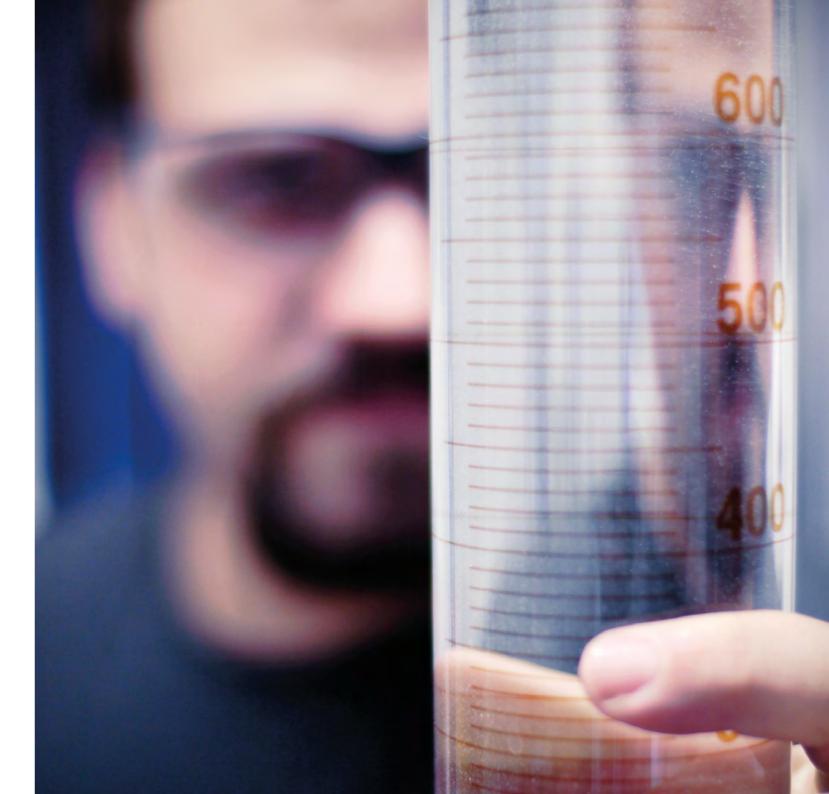
Established in 1965, FRANK was among the first suppliers in Germany to offer high-quality piping systems made from thermoplastics. We have since extended our product range with many innovative solutions and components. As a result, our stock also includes products for highly specialised applications. And if we do not have what you need, we simply develop a new solution for you. When it comes to the quality of our products, we make no compromises. That is why we are constantly investing in advanced software, modern production plants and perform meticulous quality checks. Our highly skilled personnel and partners are our quality guarantors. As part of our management system certified according to ISO 9001, 14001 and 50001, we continuously improve our processes. Our production plants are regularly audited by independent bodies, and all our products come with the necessary certificates and approvals.

In order to optimise our technologies and processes further, we are involved in the drafting of national standards and other technical rules (e.g. DIN/EN, DVS, DVGW).



For its research projects, FRANK is receiving funds from the LOEWE Research Initiative of the State of Hessen and the SME Innovation Programme of the German Federal Ministry for Economic Affairs and Energy.





for any application

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# We have the right solution



# Our product range





**Industrial Pipe Systems** 

Valves / MCT





Sewage and Environment

Geosynthetics





Semi-finished Products

Gas and Water Supply **Biogas Technology** 





**Geothermal Systems** 

Plastic Welding Technology



Pipes | Fittings | Large-size fittings | Double containment piping systems | Tanks

For industrial and chemical applications, FRANK offers piping systems made from materials such as PE 100-RC, PVDF or ECTFE know for their durability. Our pipes can withstand extremely harsh conditions to ensure reliable media transport.

FRANK high-tech products for industrial piping systems are installed all over the world in apparatus and tank production, chemical factories, semiconductor production facilities, galvanising plants, compressed air and exhaust gas treatment facilities and swimming pools.

# Industrial Pipe Systems

## Vattenfall pipe bridge, Spreewitz

FRANK supplied more than 1000 m of extruded large diameter piping in sizes d 1400 mm and d 1200 mm/SDR 17 as well as bends, sockets and special flanges made from strong PE 100-RC for the replacement of a defective FRP cooling water pipeline of a coal-fired power station. The large-size pipes were installed with horizontal directional drilling, a world's first for pipes of such large dimensions.

## **Bosch Solar Energy AG**

PP-Pure pipes and fittings ensure reliable distribution of ultra-pure water in one of the world's most modern photovoltaic cell production plants. The FRANK double containment piping system also serves as a monitored wastewater system.

# M5000 S&U II methanol production plant - Point Lisas (Trinidad)

For the extension of one of the largest methanol plants in the world, the operator looked for available alternatives to conventional steel pipes and opted for piping systems made in high-grade PP. FRANK supplied 3000 m of PP d 1050 mm /SDR 33 piping as well as segmented fittings and all the welding equipment required.

## High-performance server/data storage centre II, TU Dresden

Since 2014, a cooling system with PE 100 pipes, fittings and valves from FRANK has been ensuring that the high-performance servers of the Technical University of Dresden are never down.

# Elbphilharmonie concert hall, Hamburg

Despite restricted space, the contractor managed to replace the existing stainless steel cooling water pipes with a more efficient system consisting of PE 100 pipes, fittings and special parts.

## Sewerage plant, Berlin Spandau

The monitored AGRUSAFE double containment pipes and inspection manholes from FRANK made in durable PE 100 guarantee safe wastewater transport to the treatment plant.

# Treated water discharge pipe, wastewater treatment plant, Suva (Fiji)

To pump treated wastewater through a discharge pipe into the sea, FRANK supplied 2000 m of PE 80 d 1400 mm/SDR 26 piping as well as a range of special assemblies, stub flanges and connectors.







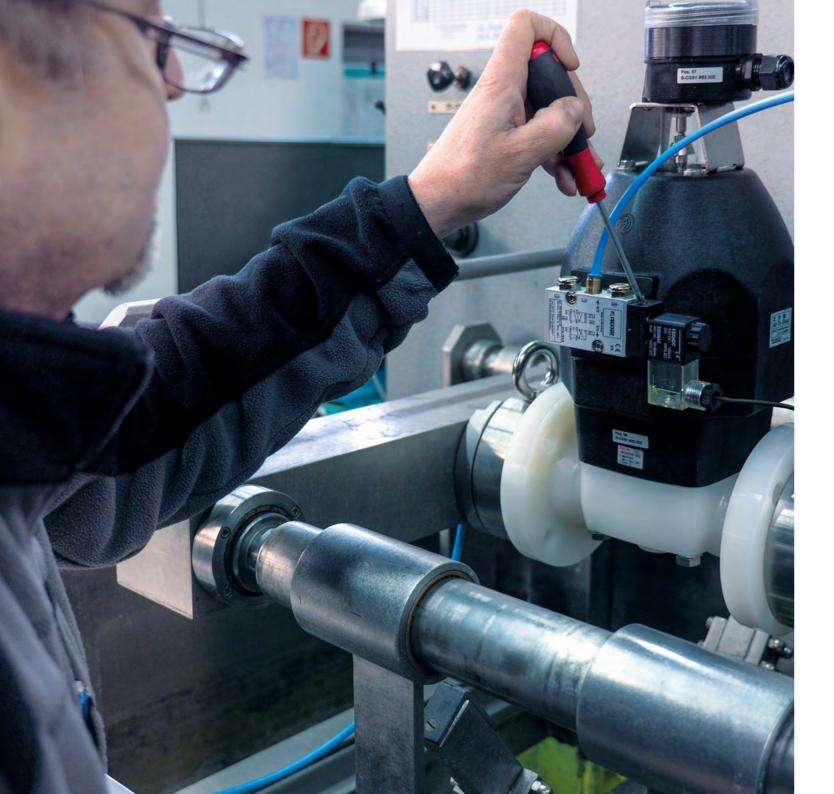












# Valves / MCT

Butterfly valves | Diaphragm valves | Ball valves | Pressure reducing valves | Flow meters | Flow and pressure regulating valves | Flow regulating valves | Butterfly throttle valves

FRANK offers durable plastic and customised valves for use in water treatment and distribution, environmental technologies, chemical and pharmaceutical production, metal machining and semiconductor production. Our manual and automated valves are of the highest quality and control the flow of media through pipeline systems. They allow for accurate flow and pressure regulation and precision measurement of other operating parameters.

## AquaOrbis sturgeon farm, Abu Dhabi

Low-maintenance flow meters and diaphragm valves from FRANK keep the oxygen concentration and water quality in the world's largest sturgeon farm in Abu Dhabi at the optimum level for the fish.

# ESP isolation valves for RUSTENBURG PLATINUM MINES LTD. (South Africa)

ND 1200 butterfly valves made in PP/FRP/FKM with inflatable seals keep the electric filters and gas purification systems of the sulphuric acid production plant at the world's largest platinum extraction site running smoothly.

# Chemicals fine dosing system at wet bench processing plant,Fürstenfeldbruck

Paddle wheel flow sensors made from ECTFE are important elements in the production plant for micro components for the solar industry. The FRANK flow sensors were factory-calibrated and equipped with flare link adapters for the accurate measurement of chemicals used in the production of wafers.

# Chemicals handling system, Burghausen

Valves for ultra-pure chemicals: Chemical-resistant, 100% tight diaphragm valves, ball valves and pressure reducing valves with special seals allow for the high-precision dosing of chemicals.

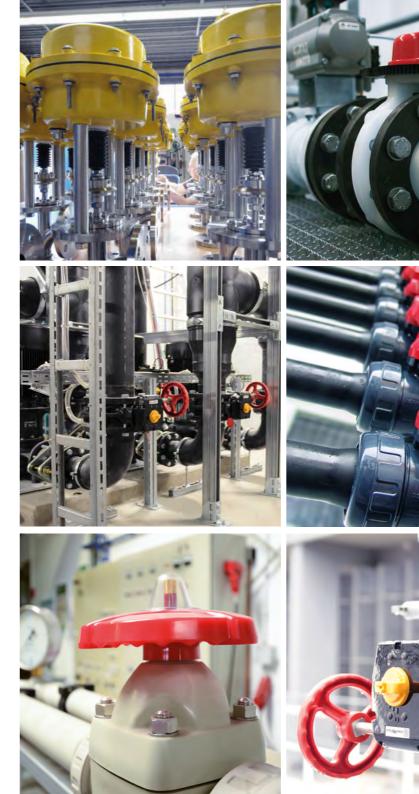
# Ventilation duct for Yara (Norway)

Huge, corrosion-resistant ND 2700 butterfly throttle valves made in PP with actuators make sure that the chemicals factory is properly ventilated at all times.

# Neutralisation unit 2

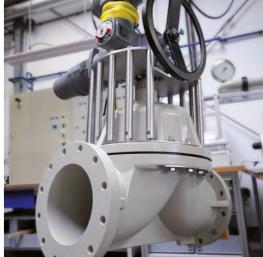
# Thyssenkrupp AG, Rasselstein GmbH

Exner globe control valves with pneumatic actuators and positioners allow for accurate flow control of extremely aggressive neutralisation media such as hydrochloric acid, sodium hydroxide and lime wash used in Europe's largest tin plate factory.



















# Semi-finished Products

Solid rods | Hollow rods | Liner pipes | Welding rods | Concrete protection liners | Extruded, pressed, laminated and foamed plates | Spiral pipes for tank production

For tank, plant and apparatus manufacturers we offer semi-finished products made from high-tech materials including PE 100, PE 100-RC, PE-el, PP, PPs, PPs-el, FEP, PFA, PVDF, PVDF-el and ECTFE that meet the most stringent technical requirements. In addition, we supply innovative lining systems for storage, filling and handling plants as well as production, processing and application facilities, including industrial tanks and wastewater treatment plants, protecting the environment from aggressive and abrasive media.



# E.ON power station, Wilhelmshaven

FRANK manufactured and supplied the PE lining of the ND 3400 reinforced concrete jacking pipes for the water supply pipeline of one of the most modern and efficient 800 MW power plants.

# Ems Canal pump station, Gelsenkirchen

FRANK supplied the concrete protection liners for the most exposed plant parts in the pump station at Gelsenkirchen, which is part of the largest canal system construction project in the world today. In the construction of the Ems Canal, 500 m<sup>3</sup> of grey water needs to be pumped off every second.

### HSE Hamburg, Bergedorf

The people of Bergedorf in Hamburg do no longer have to fear heavy rain, as the local storm water system built in 1908 has been upgraded. FRANK supplied the PE inliners for the ND 2400 jacking pipes.

# **Emergency tank at Roche, Penzberg**

In 2015, the emergency tank of one of the largest biotech plants in Europe was retrofitted with 3000 m<sup>2</sup> AGRU Sure Grip<sup>®</sup> concrete protection liners against aggressive and abrasive media.

# Vattenfall mine water treatment plant "Am Weinberg", Welzow

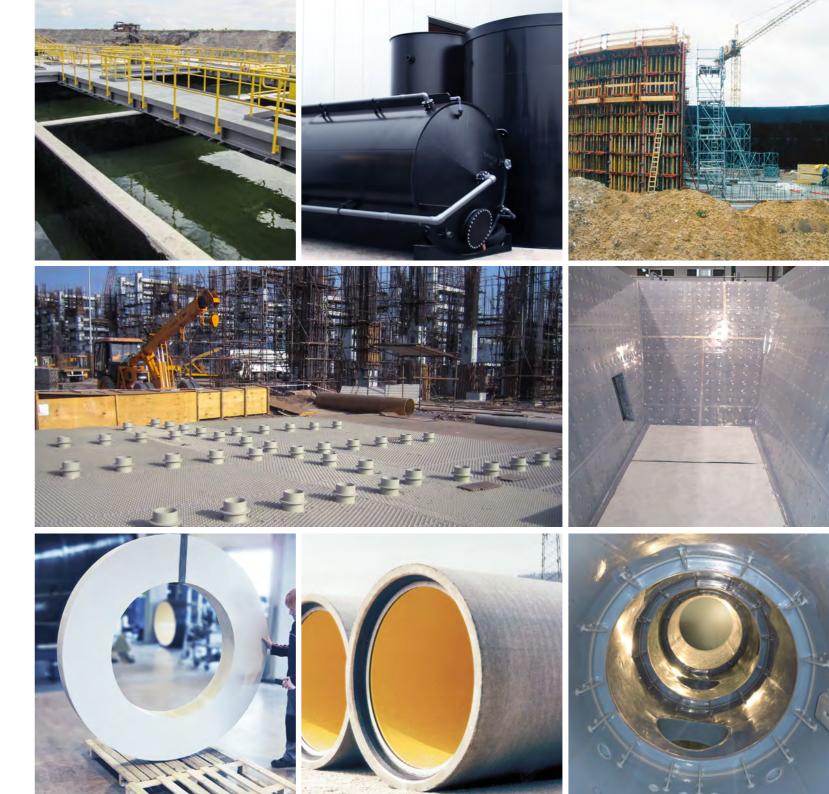
The new mine water treatment plant "Am Weinberg" is equipped with lasting AGRU Sure Grip<sup>®</sup>concrete protection liners. The plant processes up to 30 m<sup>3</sup> of treated mine water per minute to prevent pollution of the rivers and lakes north of the Welzow-Süd opencast mine.

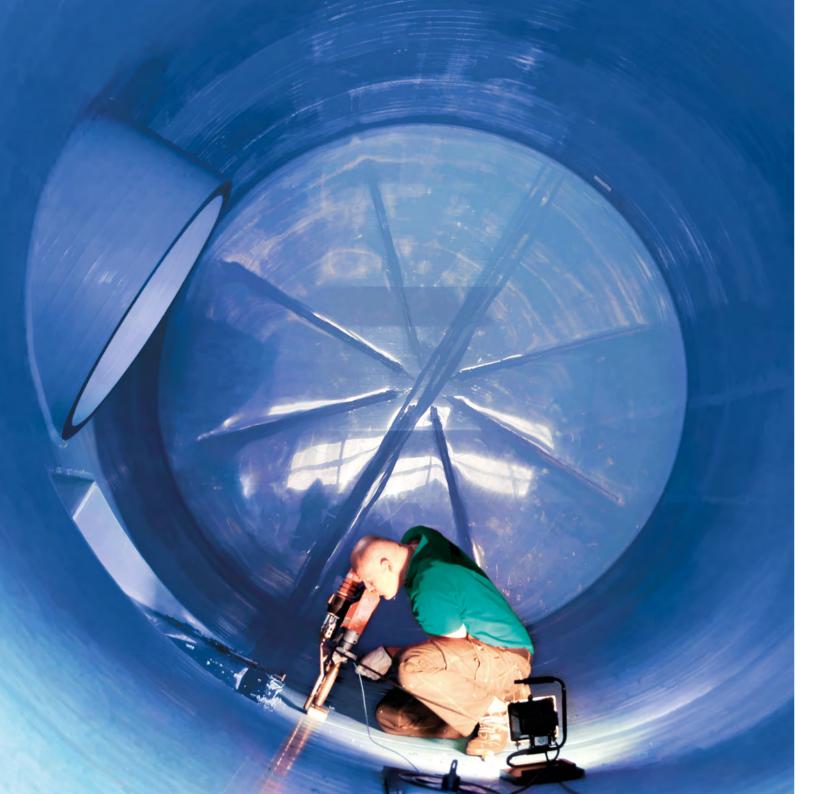
### RWE power station, Eemshaven

A high-resistant, monitored PE double sealing system protects the 3700 m<sup>2</sup> concrete cooling water tank. The modern power station run with two ultra-supercritical Benson boilers has an efficiency rating of 46% and supplies 3.5 million homes with electricity.

# Flue gas and heat exchange chamber with PFA lining

FRANK supplied the 1200 m<sup>2</sup> PFA liner for the flue gas inlet and the heat exchange chamber of a lignite-fired power station. At temperatures of up to 260°C, this high-tech material protects the steel walls and components against aggressive flue gases and thus ensures trouble-free operation of the power station.





# Gas & Water Supply

Pipes | Fittings | Valves | Drinking water tanks | Systems for biogas application | Spring water collecting chambers | Well houses | Lining systems for drinking water reservoirs

For many decades, top-quality piping systems from FRANK for gas and water distribution networks helped protect resources and the environment. These include special parts ready for installation such as drinking water tanks up to ND 3500, as well as lining systems for the cost-efficient rehabilitation of drinking water distribution networks.

For our products, we exclusively use high-grade materials, and FRANK is the only supplier in Germany offering complete piping systems made from extra resistant PE 100-RC. For heavy-load applications, we provide pipes made from crack-resistant PE-Xa.



# Rehabilitation of drinking water mains, Alb-Donau district

To eliminate leakage, a 4 km section of a ND 1500 concrete pressure pipeline of the drinking water distribution system in the metropolitan area Neckar has been lined with PE 100 piping (d 1480 mm) installed by swagelining.

Rehabilitation of ND 900 drinking water mains, Essingen

For the rehabilitation of a grey cast water mains, d 900 x 53 mm PE 100-RC pipes were installed by means of swagelining, at about half the costs of a replacement with a new steel pipeline.

## Rehabilitation of ND 1600 drinking water mains, Munich

FRANK was chosen as the supplier of 500 m of d 1600 mm PE 100-RC piping for the rehabilitation of a gravity mains. In this pilot project, fold lining was used for the first time in a pipeline of this size.

# Rehabilitation of 6000 m<sup>3</sup> water tower "Steige", Sindelfingen

This is the largest reservoir rehabilitation project ever undertaken with the Hydro<sup>Click</sup> system: Thanks to the short production and installation time, the project costs were well below those of other rehabilitation systems.

# Rehabilitation of ND 1000 gas pipeline by relining, Berlin Wedding

In order to minimise traffic disruption, noise, and interruption of supply, the old cast iron pipeline was upgraded with 1800 m d 450 x 26.7 mm Sureline<sup>®</sup> pipes by means of trenchless relining.

# One of Germany's largest PE drinking water tanks installed in Weilheim

For its drinking water supply system, the city of Hechingen opted for FTW<sup>®</sup> pipe tanks (2 x 160 m<sup>3</sup>, 2 x 20 m, ND 3500) made in PE. By choosing this solution rather than building concrete reservoirs, tens of thousands of Euro could be saved.

# Environmentally friendly installation of gas pipeline through "Vulkaneifel" nature reserve

For the 10.5 km long stretch of a high-pressure gas pipeline through a nature reserve and water protection area, the operators opted for d 160 x 14.6 mm Sureline® pipes. The project was completed in the shortest of time, as 1.2 km of pipeline were installed on average every day. Thanks to the cost-effective trenchless installation, the project was completed on schedule and within budget, and with minimum impact on the flora and fauna of the nature reserve.















# Sewage and Environment

Sewage pipe systems | Storm water systems | Throttle manholes | Storm water overflows | Segmented fittings | Special constructions | Double containment pipes | Spiral pipes | PKS Thermpipe®

To protect the groundwater and the environment, FRANK offers manholes and special constructions in durable PE and PP for the safe transport and storage of waste water. Our welded and push-fit systems with a service life of 100 years are permanently sealed, resistant to chemicals and corrosion, break-proof and easy to maintain.

FRANK solutions have been serving communities and companies, for instance in the automotive and chemical industries, since the late 1990s.



## "Stuttgart 21" railway construction project

FRANK has been put in charge of the design and installation planning of the highly complex culvert system for wastewater consisting of PE 100 pipes with diameters up to ND 3500, and special parts and fittings.

## Innerstetal dam/Harzwasserwerk

For the 3.5 km connecting pipeline between the residential area and the wastewater treatment plant, FRANK supplied PKS<sup>®</sup> pipes and manholes in sizes ND 900, ND 1200 and ND 1500. Thanks to its smooth surface finish, these pipes are particularly suitable for small gradients ( $\leq$  1 ‰), as was the case in this system.

# Eco estate "Du Mousse", Dax (France)

144 m of PKS Thermpipe<sup>®</sup> ND 800 pipes supply the modern housing estate with 200 kW heating power. Most of the energy is recovered from wastewater and the ground.

# Gondwanaland enclosure, Leipzig Zoo

300 m of PKS<sup>®</sup> ventilation pipes in sizes ND 600, ND 900, ND 1200 and ND 1400, as well as bends, T-pieces and manholes from FRANK maintain a tropical climate for the flora and fauna of the enclosure.

# Emmen Zoo (Netherlands)

The zoo uses 884 m of PKS<sup>®</sup> ND 400, ND 900 and ND 2000 pipes as well as 115 special parts for the ventilation of its buildings.

## Steinhäule wastewater treatment plant, Neu-Ulm

FRANK was the supplier of the entire large-size piping system including fixed flanges and special parts for this innovative project. The ND 1200 and ND 1400 PKS® pipelines with a length of 460 m were installed over ground and can withstand internal pressures of 1.5 bar.

# Sewerage system, Bremen

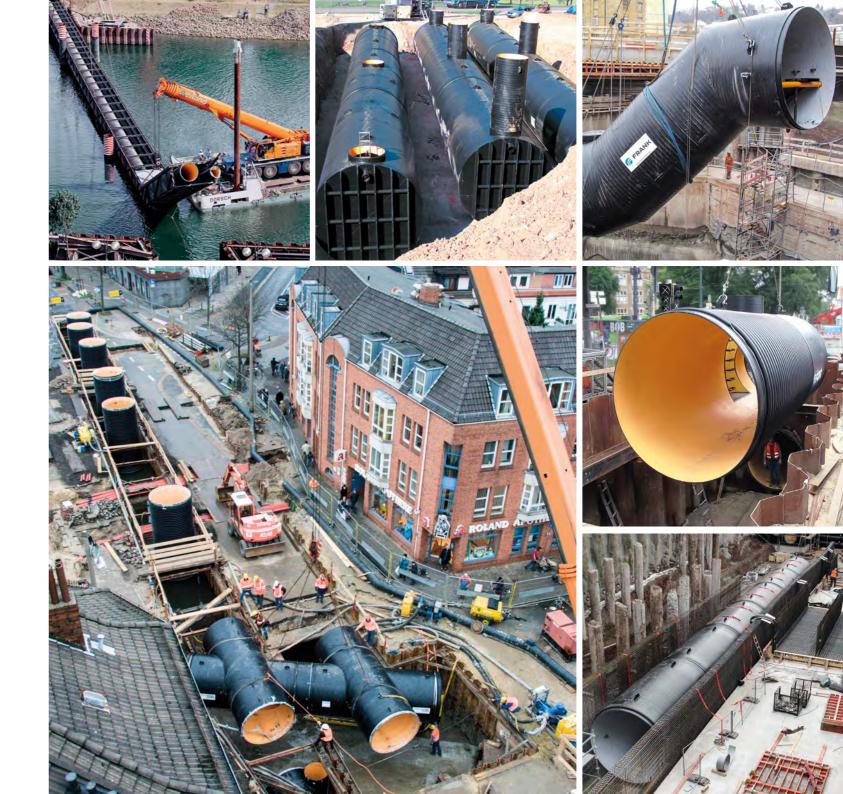
For nearly 20 years, the city of Bremen has been relying on PKS<sup>®</sup> piping systems. To date, FRANK has supplied more than 11 km of sewer pipes, manholes and special constructions from ND 500 to ND 2300.

# Neckardüker, Mannheim

For technical and financial reasons, the old "Grabenstrasse" culvert operated by the city of Mannheim was replaced with two parallel PKS® pipes. The ND 800 and ND 1400 pipelines are extremely flexible and welded tight. They were assembled on dry land and then lowered to be bottom of the Neckar river.

# Vulkan landfill near Haslach

To protect the environment against contamination by leachate, the Vulkan landfill installed monitored ND 3500 PKS® Secutec pipes and 3 Secutec tanks with a capacity of 300 m<sup>3</sup> and a ND 1200 control dome.





# Geosynthetics

Nonwovens | Woven fabrics | Geogrids | Reinforcement composites | Drainage nets | Erosion protection mats | Geosynthetic clay liners | PEHD sealing membranes | TPD geomembrane liners | Asphalt reinforcement grids | Puddle flanges

FRANK geosynthetics provide cost-effective and ecological solutions in road and railroad construction as well as landscaping. Thanks to their outstanding material properties, they are extremely strong, durable and versatile. FRANK geosynthetics help reduce costs for earth constructions and transport, while lowering CO<sub>2</sub> emissions.

All our geotextiles and geosynthetics meet the requirements of the European Construction Products Regulation. We also supply products according to ivg, HPQ and BAW as well as DIBt.



## A 38 - A 14 motorway, south ring road around Leipzig

Half a million square metres of insulation and filter nonwovens from FRANK have been installed to provide extra stability to the substrate under this motorway section.

## Nordstream Opal gas pipeline

Prefabricated pipe protection mats approved by WINGAS protect the ND 1200 steel pipeline running from Wyborg (Russia) to Lubmin (near Greifswald, Germany).

# FAIR, Darmstadt/Wixhausen

FRANK geotextiles were used in the construction of the particle accelerator with a 1.1 km circumference at the FAIR Facility for Antiproton and Ion Research.

# **B 3 bypass, Friedberg**

The FRANK heavy-duty geotextile material was specifically designed for this project to provide a cost-effective bank base foundation for the new bypass road.

# New ICE track "Cologne-Rhine/Main"

A FRANK drainage grid specially approved for this project and ensures proper drainage of the bridge abutments along the above ICE track.

## Frankfurt Airport, route to north-west landing runway

In the construction of the earth pressure protection of the aeroplane roll bridges over the A 3, geogrids and nonwovens from FRANK enabled the contractor to make significant cost savings compared with a conventional construction. This is the first project of this size in which geosynthetics provide the necessary stability.

# Storm water retention tank, Saulheim

The storm water retention tank of a new housing estate extending over 18 ha has been permanently sealed using geosynthetic clay liners from FRANK.

# A 24 at Möhnsen between Schwarzenbeck and Talkau

First project in Germany built according to the ZTV Beton concrete construction standard 2006: FRANK concrete canvas prevents settlement cracks from propagating from the hydraulically bonded base course to the concrete road surfaces.

# Road resurfacing of A 10, near Werder between km 109 and km 113

An asphalt reinforcement grid with extra tensile strength in both longitudinal and traverse direction makes the tarmacadam cover of the road more durable.





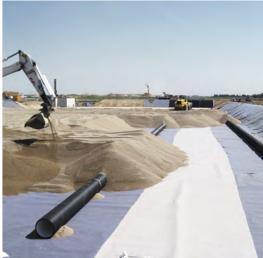














# Geothermal Systems

Geothermal probes in PE 100-RC and PE-Xa | Brine manifolds | Manifold chambers | Horizontal collectors | PKS Thermpipe® | LIMNION® LIMA-1

GET stands for Geothermal Environmental Technology, and the FRANK GET system offers a range of innovative solutions for the extraction of geothermal energy by means of special pipelines and ground source heat pumps. Apart from source-related components such as geothermal probes or the FRANK Vertical Thermpipe, we also produce brine manifolds, manholes, fittings and valves and offer the welding technology to bring all the elements together.

All components are made from top-quality, high-resistant materials that ensure a long and trouble-free service life of our systems – from source to heat pump.



# Herrenchiemsee Palace

Since its renovation in 2010, the north wing of Herrenchiemsee Palace is heated and cooled geothermally (360 MWh/year). FRANK supplied the PE 100 geothermal probes of up to 250 m in lengths, as well as the central manifold chamber.

# **Energy Office, Bremen**

The first building in Bremen to win the DGNB Gold Award for sustainable construction includes FRANK geothermal probes and manholes.

# New development centre of Fronius International GmbH, Talheim (Austria)

One of the largest geothermal fields in the European Union works with more than 200 FRANK geothermal probes (of 200 m in length each) made from PE 100-RC to heat and cool a floor area of more than 22,000 m<sup>2</sup> at the new premises of Fronius International GmbH. In addition to the thermal probes, FRANK also supplied a fully equipped, 12 metre long ND 2400 manhole designed to withstand the weight of HGVs.

# New production and administrative building of Leica Camera AG, Wetzlar

The air-conditioning system of the new premises of Leica Camera AG in Wetzlar relies on 80 FRANK geothermal probes and spiral pipes designed to withstand heavy loads.

# Heating with energy from lakes, Delft (Netherlands)

LIMNION<sup>®</sup> LIMA-1 heat exchangers extract energy from the lake to heat floating homes (house boats).

# Geothermal heating system for subsidised housing project, Hamburg

The latest project of a housing association in Hamburg comprising 40 subsidised units for elderly people, singles and families is heated through 18 FRANK geothermal probes and a manifold chamber incorporated into the foundation plate.

# Airbus, Toulouse (France)

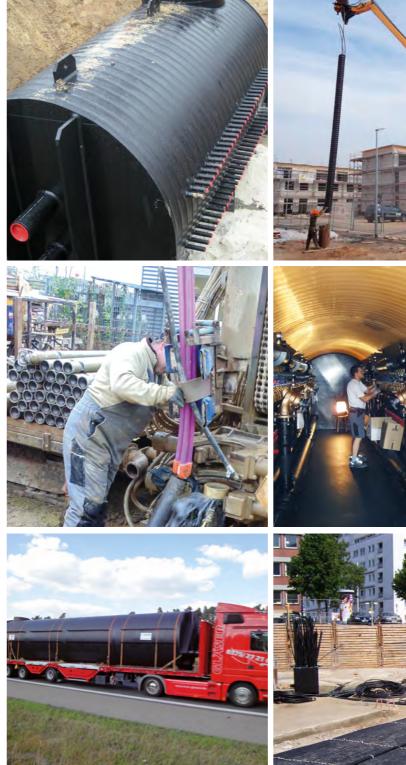
Six manifolds for a geothermal probe fields of 140 FRANK probes in total make it possible to heat and cool the 30,000 m<sup>2</sup> office and administrative building in a cost-effective and sustainable way.

# Henninger Turm, Frankfurt/Main

This new development of 17 apartment blocks and underground parking relies on a geothermal probe field comprising 260 FRANK geothermal probes and manholes built into the foundation plate for its energy supply.

# Kindergarten, Veitshöchheim

As the drilling depth was limited, FRANK VTP<sup>®</sup> was the ideal solution for the geothermal heating system of a kindergarten, providing 30 kW.





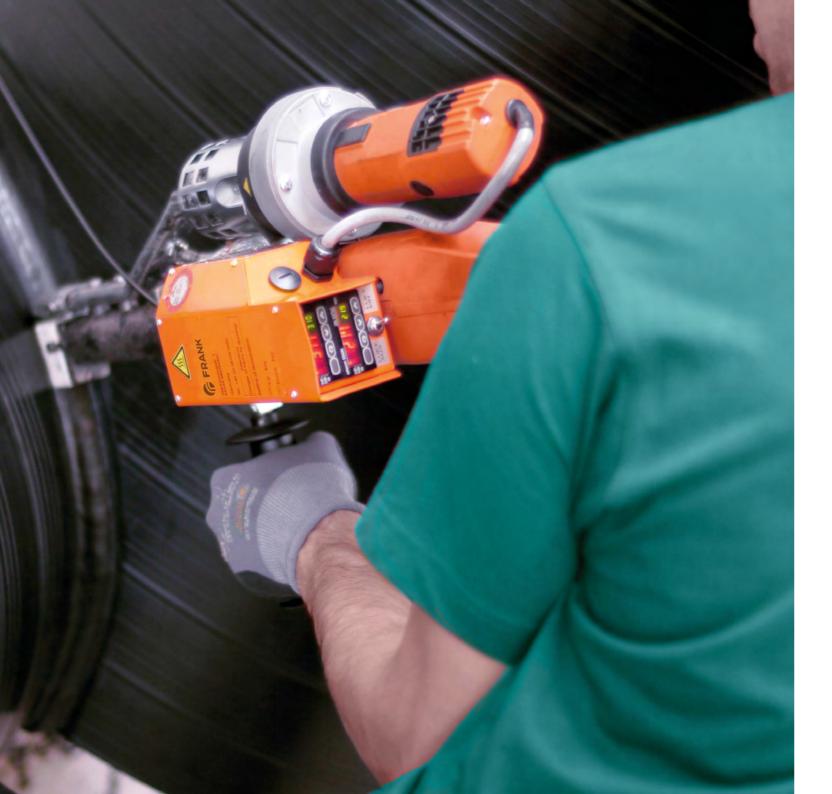












# Plastic Welding Technology

Welding equipment | Machines | Tools | Accessories

FRANK designs and produces plastic welding equipment that meets the highest standards in plant and pipeline construction. Our machines, tools and accessories cater for butt, electrofusion, extrusion, socket and IR welding and are built for operation on site or at the factory.

Alternatively, customers can choose from a large range of advanced welding equipment for hire.



Contact us for more information! T +49 6105 4085 - 0 | info@frank-gmbh.de

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